

REMARKS

In the non-final Office Action, the Examiner rejects claims 1-10, 15 and 18-20 under 35 U.S.C. § 102(e) as anticipated by LECHNER (U.S. Patent Application Publication No. 2006/0262945); and rejects claims 11, 13, and 16 under 35 U.S.C. § 103(a) as unpatentable over LECHNER in view of MASAMURA (U.S. Patent No. 6,819,939). Applicant respectfully traverses these rejections.

By way of the present amendment, Applicant amends claims 1, 2, 4, 5, and 8-20 to improve form. No new matter has been added by way of the present amendment. Claims 1, 2, 4, 5 and 7-20 are pending.

Rejection under 35 U.S.C. § 102(e) based on LECHNER

Claims 1-10, 15 and 18-20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by LECHNER. Applicant respectfully traverses this rejection.

Amended claim 1 recites a portable electronic device that includes a speaker; a receiver for sound reproduction, the speaker and the receiver sharing a back volume pace within the portable electronic device; and a control unit to: actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active. LECHNER does not disclose or suggest this combination of features.

For example, LECHNER does not disclose or suggest a control unit to actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active. The Examiner relies on Figs. 1-3, paragraph 0010, and paragraph 0018 (which describes Fig. 1) of

LECHNER as allegedly disclosing a similar feature recited in claim 12 (Office Action, pg. 5). Applicant respectfully disagrees with the Examiner's interpretation of LECHNER.

At Fig. 2, LECHNER discloses a commonly used type of an electronic driving circuit for a mobile terminal with a loudspeaker. By applying a control signal to the control port of the audio power amplifier, a user can turn the loudspeaker on or off at his will (paragraph 0019). Fig. 2 of LECHNER does not disclose suppressing movement of a membrane in a receiver. Therefore, Fig. 2 of LECHNER does not disclose a control unit to actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active, as recited in amended claim 1.

At Fig. 3, LECHNER discloses placing a switch control between the resistor and the output port of the voiceband electronic circuit to allow an exclusive transmission of either the buzzer signal or the audio signal to the audio power amplifier. Fig. 3 of LECHNER does not disclose suppressing movement of a membrane in a receiver. Therefore, Fig. 3 of LECHNER does not disclose a control unit to actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active, as recited in amended claim 1.

At paragraph 0010, LECHNER discloses:

The invention uses the fact, that a balanced output of a voiceband integrated circuit can be operated in two modes. In a first mode, the audio signal is provided on both ports of the output in-phase, while in the second mode the signals

provided are of opposite phase. Thus, the adder circuit will produce a zero sum signal for the second mode which corresponds to a turn-off of the audio signal provided to the loudspeaker without the necessity of employing an analogue switch as in the prior art. At the earpiece speaker, the opposite-phase signals correspond to an audio signal of double amplitude allowing it to produce a sound corresponding to a currently present audio signal. In the other mode, the earpiece speaker is silent while the loudspeaker transduces the audio signal. Without a necessity for external control devices, like for instance an analogue switch or the like, the electronic circuit of the present invention makes advantageously use of the control functions already provided by a voiceband electronic circuitry used in mobile terminals.

This section of LECHNER discloses a first mode in which an audio signal is provided on both ports of an output in-phase, while in the second mode the signals provided are of opposite phase. At the earpiece speaker, the opposite-phase signals correspond to an audio signal of double amplitude allowing it to produce a sound corresponding to a currently present audio signal. In the other mode, the earpiece speaker is silent while the loudspeaker transduces the audio signal. This section of LECHNER does not disclose suppressing movement of a membrane in a receiver. Therefore, this section of LECHNER does not disclose a control unit to actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active, as recited in amended claim 1.

At paragraph 0018, LECHNER discloses:

The circuit diagram of FIG. 1 shows a first example of a commonly used electronic driving circuit for distributing an audio signal provided by a voiceband electronic circuit 1 to an earpiece speaker and/or a loudspeaker of a mobile terminal. The electronic driving circuit 1 is formed by a voiceband electronic circuit 8 indicated by an enclosing dashed line in FIG. 1, and by a circuitry external to it. This external circuit contains the earpiece speaker 2, the loudspeaker 3 and the audio power amplifier 4 for amplifying the difference of the audio signals provided at each of the two output ports 6-1 and 6-2 of the voiceband integrated circuit output 6. The audio power amplifier can be switched on or off by means of a control port 5 available at the audio amplifier 4. An audio signal generated or processed within the voiceband electronic circuit is directed by a switching means 8-5 or 8-6, respectively, to either the output stage for the loudspeaker or that for the earpiece speaker. The switching means 8-5 and 8-6

are typically formed by an electronic device like a transistor or the like which can be easily controlled by a control logic of the mobile terminal. The output stage for the loudspeaker 3 comprises an amplifier 8-1 which processes the audio signal in a non-inverting way and an amplifier 8-2 which inverts the audio signal. The audio signal provided on the two ports 6-1 and 6-2 of the output port 6 is thereby provided with opposite phases. The output stage for the second port 7 supplying the earpiece speaker is formed identical to the one described for the loudspeaker. For an audio signal to be transduced by the loudspeaker 3, the switch 8-5 is closed while the switch 8-6 disrupts the connection to the output stage for the output 7 of the voiceband electronic circuit. Thus, the audio signal is exclusively reproduced by the loudspeaker 3. In the other mode, switch 8-5 is open and switch 8-6 is closed resulting in an exclusive reproduction of an audio signal by the earpiece speaker.

This section of LECHNER discloses an electronic driving circuit for distributing an audio signal provided by a voiceband electronic circuit to an earpiece speaker and/or a loudspeaker of a mobile terminal. An audio signal generated or processed within the voiceband electronic circuit is directed by a switching means 8-5 or 8-6, respectively, to either the output stage for the loudspeaker or for the earpiece speaker. For an audio signal to be transduced by the loudspeaker, the switch 8-5 is closed while the switch 8-6 disrupts the connection to the output stage for the output of the voiceband electronic circuit. This section of LECHNER does not disclose suppressing movement of a membrane in a receiver. Therefore, this section of LECHNER does not disclose a control unit to actively damp the receiver while the speaker is active by controlling voltage or current applied to the receiver such that movement of a membrane of the receiver is suppressed to actively reduce acoustic leakage from the receiver when the speaker is active, as recited in amended claim 1.

If this rejection is maintained, Applicant respectfully requests that the Examiner point out which sections of LECHNER can reasonably be construed as disclosing the above feature of independent claim 1.

For at least the foregoing reasons, Applicant submits that claim 1 is not anticipated by LECHNER.

Claims 2, 4, and 8 depend from claim 1. Therefore, these claims are not anticipated by LECHNER for at least the reasons given above with respect to claim 1.

Independent claims 5, 12, 14, 15, and 17 recite features similar to, yet possibly of different scope than, features recited above with respect to amended claim 1. Therefore, these claims are not anticipated by LECHNER for at least the reasons given above with respect to claim 1.

Claims 7, 9, and 10 depend from claim 5. Therefore, these claims are not anticipated by LECHNER for at least the reasons given above with respect to claim 5.

Claims 18, 18, and 20 depend from claim 15. Therefore, these claims are not anticipated by LECHNER for at least the reasons given above with respect to claim 15.

Rejection under 35 U.S.C. § 103(a) based on LECHNER and MASAMURA

Claims 11, 13, and 16 stand rejected under 35 U.S.C. § 103(a) based on LECHNER and MASAMURA. Applicant respectfully traverses this rejection.

Applicants respectfully submit that LECHNER does not qualify as prior art under 35 U.S.C. § 103(a). 35 U.S.C. § 103(c) qualifies 35 U.S.C. § 103(a) and states:

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

LECHNER qualifies as prior art under 35 U.S.C. § 102 only under subsection (e). The present application and the LECHNER patent application were both commonly assigned

or subject to an obligation of assignment to Sony Ericsson Mobile Communications AB at the time Applicant's invention was made. The assignment to Sony Ericsson Mobile Communications AB in the present application was recorded at Reel 018158, Frame 0261. The assignment to Sony Ericsson Mobile Communications AB in the LECHNER patent application was recorded at Reel 017900, Frame 0430. Since the present application and the LECHNER patent application were both commonly assigned or subject to an obligation of assignment to Sony Ericsson Mobile Communications AB at the time Applicant's invention was made, Applicant respectfully notes that the LECHNER patent application cannot be used to preclude patentability of the present invention under 35 U.S.C. § 103(c).

Claim 11 depends from claim 12, claim 13 depends from claim 14, and claim 16 depends from claim 17. Applicant submits that MASAMURA does not disclose or suggest the combination of features recited in claims 12, 14, and 17. Therefore, claims 11, 13, and 16 are patentable over MASAMURA.

CONCLUSION

In view of the foregoing amendment and remarks, Applicant respectfully requests that the Examiner's reconsideration and allowance of the present application.

As Applicant's remarks with respect to the Examiner's rejections overcome the rejections, Applicant's silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such assertions (e.g., whether a reference constitutes prior art, reasons for modifying a reference and/or combining references, assertions as to dependent claims, etc.) is not a concession by Applicant that such assertions are accurate or that such requirements have been met, and Applicant reserves the right to dispute these assertions/requirements in the future.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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